

Docket No. 482.152

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CENTRAL FAX CENTER****PATENT****MAY 24 2006****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Nelson, David et al.
Appl. No. : 10/822,573
Filed : April 12, 2004
For : Efficient Water Filters
Examiner : Ivars C. Cintins
Group Art Unit: 1724

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Dear Sir:

Responsive to the Advisory Action Before the Filing of an Appeal Brief, dated April 6, 2006,
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remarks.

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three month extension fee of \$1020⁰ believed to be due. This Request is accompanied by a Notice of
Appeal. Please charge any additional fees, including fees for additional extensions of time, or credit
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Remarks/Arguments begin on page 2 of this paper.

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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
<p>I hereby certify that this correspondence is being mailed^{faxed} with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AP, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]</p> <p>on <u>May 24, 2006</u></p> <p>Signature <u>Denise Whigham</u></p> <p>Typed or printed name <u>Denise Whigham</u></p>		Application Number	Filed
		10/822,573	April 12, 2004
		First Named Inventor	
		Nelson, David	
Art Unit		Examiner	
1724		Cintins, Ivars C.	
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p>			
I am the			
<input type="checkbox"/> applicant/inventor.		Signature	
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)		Stacy Hegle Combs	
		Typed or printed name	
<input checked="" type="checkbox"/> attorney or agent of record. 50,687		(925) 425-6905	
Registration number		Telephone number	
<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34.		May 24, 2006	
Registration number if acting under 37 CFR 1.34		Date	
<p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p>			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.8. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AP, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Reply to Office Action of: December 2, 2005

REMARKS

Present Status of Application

The Applicant would like to thank the Examiner for consideration of the Amendment and Response to Final Office action, filed March 1, 2006. Applicant also thanks the Examiner for consideration of the 132 Rinker Declaration attached thereto. As noted, the rejection under 35 U.S.C. 112, second paragraph is withdrawn and the amended claims submitted in Applicants' response and the Rinker Declaration have been entered for the purpose of appeal.

Responsive to the Final Office Action, dated December 2, 2005, and Advisory Action Before the Filing of an Appeal Brief, dated April 6, 2006, Applicant submits herewith a Notice of Appeal, due **June 2, 2006** and a Pre-Appeal Brief Request for Review, including authorization to charge all applicable fees.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1-35 remain rejected under 35 U.S.C. §103(a) as being unpatentable over Kuennen et al (US Patent No. 6,368,504) in view of one skilled in the art.

Applicant respectfully submits that the Office has misunderstood the claimed limitations in the present invention. In support of the pending claims, Applicants refer to the executed Declaration of Dr. Edward Rinker under 37 C.F.R. 132. In his Declaration, Dr. Rinker describes what a "mode" is, particle size reduction processes known in the art and graphical representations of particle size distributions used by those skilled in the art to interpret particle size reductions. Additionally, Dr. Rinker carefully describes the criticality of the claimed limitation of a multiply modal grain size distribution and its inventive step.

The Office alleges that Kuennen et al. discloses "the claimed invention with the exception of the relative volume percentage of each filtration material component". The Office also alleges that Kuennen et al. "clearly discloses a filtration media having a bimodal particle size distribution (see col. 2, lines 1-6); and one of ordinary skill in the fluid filtration art would have been motivated to employ a filtration material having the recited particle size distribution in the system of Kuennen et al., in order to obtain a corresponding balance between filtration capability and flow rate in this reference system." (See Final Office action dated December 2, 2005 and Advisory Action dated April 6, 2006.) Applicants respectfully disagree for the following reasons.

The initial burden to make a prima facie case of obviousness is on the Office. Accordingly, "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must

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present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972,973 (Bd. Pat. App. & Inter.1985). Absent some suggestion or incentive, the teachings of references may not be combined. *ACS, supra*, 221 U.S.P.Q. 933, *In re Rinehart*, 531 F. 2d 1048, 189 U.S.P.Q. 143 (C.C.P.A. 1976).

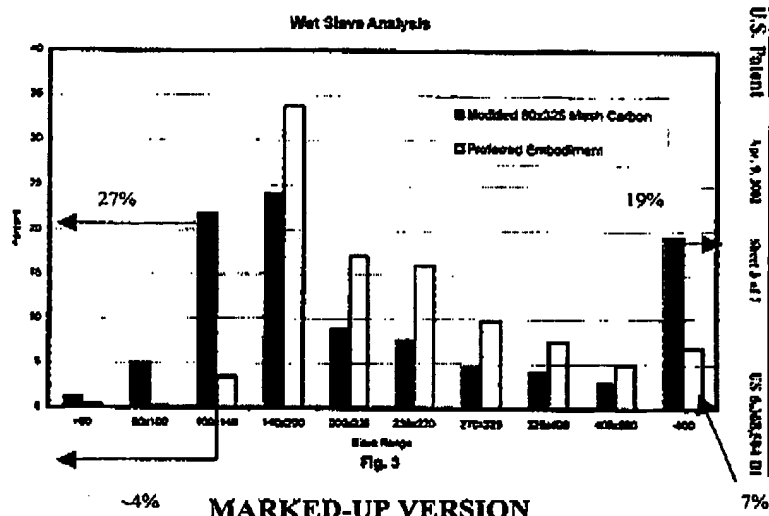
Applicants respectfully submit that the Office's burden has not been met, because there is no objective reason why one skilled in the art, in view of Kuennen, would be motivated to prepare a bimodal particle size distribution water treatment device according to the claims of the present application.

The Office has not provided a convincing line of reasoning. The fact that Kuennen appears to teach an activated carbon block filter including a particle size distribution weight percentage does not provide motivation to one skilled in the art to prepare the water treatment device of the present application. The Federal Circuit has repeatedly warned that the requisite motivation to combine references must come from the prior art, not Applicants' specification. *See In re Dow Chem. Co. v. American Cyanamid Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531-32 (Fed. Cir. 1988).

As best understood, Kuennen describes "a carbon block that provides reduced mean particle diameter and hence enhanced filtering performance over time", wherein the critical range is less than 10% larger than 140 mesh (104 micron) and less than 10% smaller than 500 mesh (25 micron). (See col. 2, lines 20-21; and col. 2, line 36-38.) One embodiment of Kuennen's invention is depicted in Figure 3 of the '504 patent. The mode of the histogram shown in Fig. 3 is at 140x200. More preferred embodiments of Kuennen's invention are presented in Figure 7 of '504.

Kuennen describes the particle size distribution based on the volume percentage of the outer (ie. minimum and maximum) ranges; less than 10% larger than 140 mesh and less than 10% smaller than 500 mesh. Kuennen does not contemplate optimal performance of the filter wherein 1-15 vol % is a grain size in a range between a first grain size and a second grain size. In fact, Kuennen provides enablement for 89% of the portion of the particles with a grain size between 140 and 500 mesh. For example, see Fig. 3, the preferred embodiment. Presented below is a marked up version of Fig. 3 from '504 to clearly show the Office the grain size distribution vol %'s according to Kuennen. (For clarification, Applicant's would like to point out that the peak at -500 mesh is not a mode, because it is a combination of all grain sizes smaller than -500 mesh.)

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Similarly, Figure 7 of '504 shows 8% larger than 140 mesh and 8% smaller than 500 mesh, which leaves 84% vol % for the particles therebetween. Kuennen provides no teaching or motivation for a bimodal particle size distribution or portion containing intermediately sized particles that constitute between 1 and 15 vol % of the particles. Applicants refer to and reincorporate by reference the arguments made in the Response filed June 15, 2005 and March 1, 2006 respectively.

Additionally, the references do not expressly or impliedly suggest the claimed invention. Applicants believe that the Gaussian type distributions presented in Figures 2, 3 and 7 of '504 support the fact that Kuennen is using a single grinding process, which would only produce one mode when graphically represented. As stated in the Rinker Declaration attached hereto, "[a]ll grinding operations yield unimodal distributions as long as the feed material is composed on a single type of material (e.g. activated carbon)." (See paragraph 8 of the Rinker Declaration.) In comparison, Applicant mixed two separate materials with modes separated by more than 10 microns and between 1 and 15 vol% of particles between the modes. This resulted in carbon blocks with improved flow rates and did not clog as easily as standard carbon blocks manufactured with unimodally distributed carbon (i.e. 80x325 mesh). See for example, Examples 1, 2 and 3 of the present application. Accordingly, Example 3 provides that 32 vol % activated carbon (80x325) and 24 vol% activated carbon (-325) mesh are mixed together. With an initial SCT of 1.92 seconds, the block was able to remove at least 99.95% of the particles before the SCT increased to above 6.2 seconds.

Kuennen describes the prior art in col. 1, line 47 to col. 2, line 11. In col. 1, line 65 to col. 2, line 6, Kuennen provides, "the carbon normally ground to form typical 80x325 mesh is subjected to a

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special grinding process that increases the level of carbon particles smaller than 325 mesh. Although the grinding operation inherently results in some variation, this *modified* carbon mixture generally provides a mean particle size of approximately 75 microns and a particle size distribution with approximately 25% or more of the carbon particles being larger than 140 mesh and 25% or more of the carbon particles being smaller than 500 mesh." (*emphasis added.*) It appears to Applicant that the prior art described herewith is depicted in Figure 3 of '504 as the "Modified 80x325 Mesh Carbon". Accordingly, the particle size distribution is described by outer (ie. maximum and minimum) ranges of volume percentages. Enablement is provided for 54% of the portion of the particles with a grain size between 140 and 500 mesh (see the marked up Fig. 3 above, modified embodiment, for graphical representation). Kuennen provides no teaching or motivation for a bimodal distribution with a portion containing intermediately sized particles that constitute between 1 and 15 vol % of the particles. Applicants would like to bring the Office's attention to the fact that enablement for the *modified* 80x325 mesh carbon shown in Figure 3 is for 27% of the grain sizes larger than 140 mesh and 19% smaller than 500 mesh. The description of the prior art in col. 1, line 65 to col. 2 of '504 includes 25% or more smaller than 500 mesh. Applicant believes that there is clearly erroneous support for the description of the prior art.

In conclusion, the Office has not presented a convincing line of reasoning as to why the skilled artisan would have found the claimed invention to be obvious in light of the teachings of Kuennen. Because the art does not, either individually or taken as a whole, teach, disclose or suggest a multimodal system or the critical intermediate particle sizes range, then an attempt to find such without adequate evidence, should be construed as a hindsight attempt at reconstructing Applicants' invention. See, *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 U.S.P.Q. 2d 1923 (Fed. Cir. 1990). The fact that a critical range can be somehow "inferred" is not the applicable law in posing an alleged prima facie obviousness action.

Respectfully submitted,



Dated: May 24, 2006

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